

Aruba Island Rattlesnake SSP Update

March 2010

**R. Andrew Odum
Species Coordinator**

31.38.0 (69) at 29 Institutions

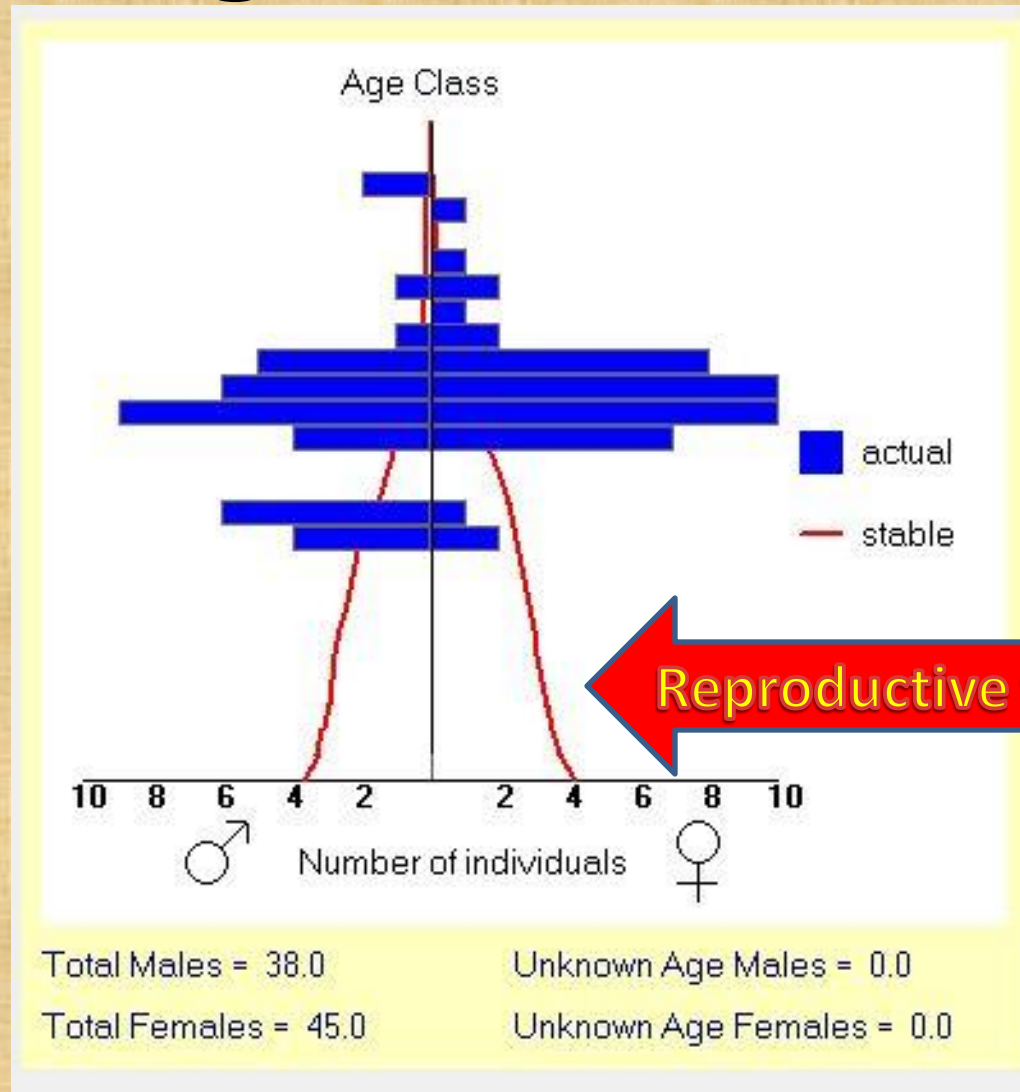
2010

CAPTIVE POPULATION

Current Captive Population

- **Founders = 21**
- **Living Descendants = 73.00** (Bl-hills and Gator)
- **GD = 0.9512**
- **Potential GD = 0.9715**
- **fge = 17.54**

Age Structure



**The demographic and
physical parameters are
very different for captive
and wild snakes**

An error in population management

2007-09 Recommendations

Sire	Sire Institution	Dam	Dam Institution	Breeding Institution
264	Toledo	325	Toledo	Toledo
238	St. Louis	275	St. Louis	St. Louis
370	Birmingham	231	Los Angeles	Los Angeles
328	Louisville	388	Louisville	Louisville
329	Audubon	369	Audubon	Audubon
475	Pittsburg	270	Cincinnati	Pittsburg
382	Knoxville	474	Lufkin	Knoxville

Recommendations Added mid-2008

Sire	Sire Institution	Dam	Dam Institution	Breeding Institution
353	Chicago LP	233	Fresno	Fresno
195	Brownsville	222	Columbia	Brownsville
356	Columbia	256	Sanford	Sanford
344	Columbus	361	NY Bronx	New York
330	Audubon	359	Columbia	Columbia
373	Birmingham	362	Columbia	Birmingham
383	Atlanta	342	Columbus	Atlanta
278	Chicago LP	292	John Ball	Seattle

Obesity

New Issues

GENERAL ANIMAL HEALTH

Wild Snakes



Captive Snake are Longer and Fatter

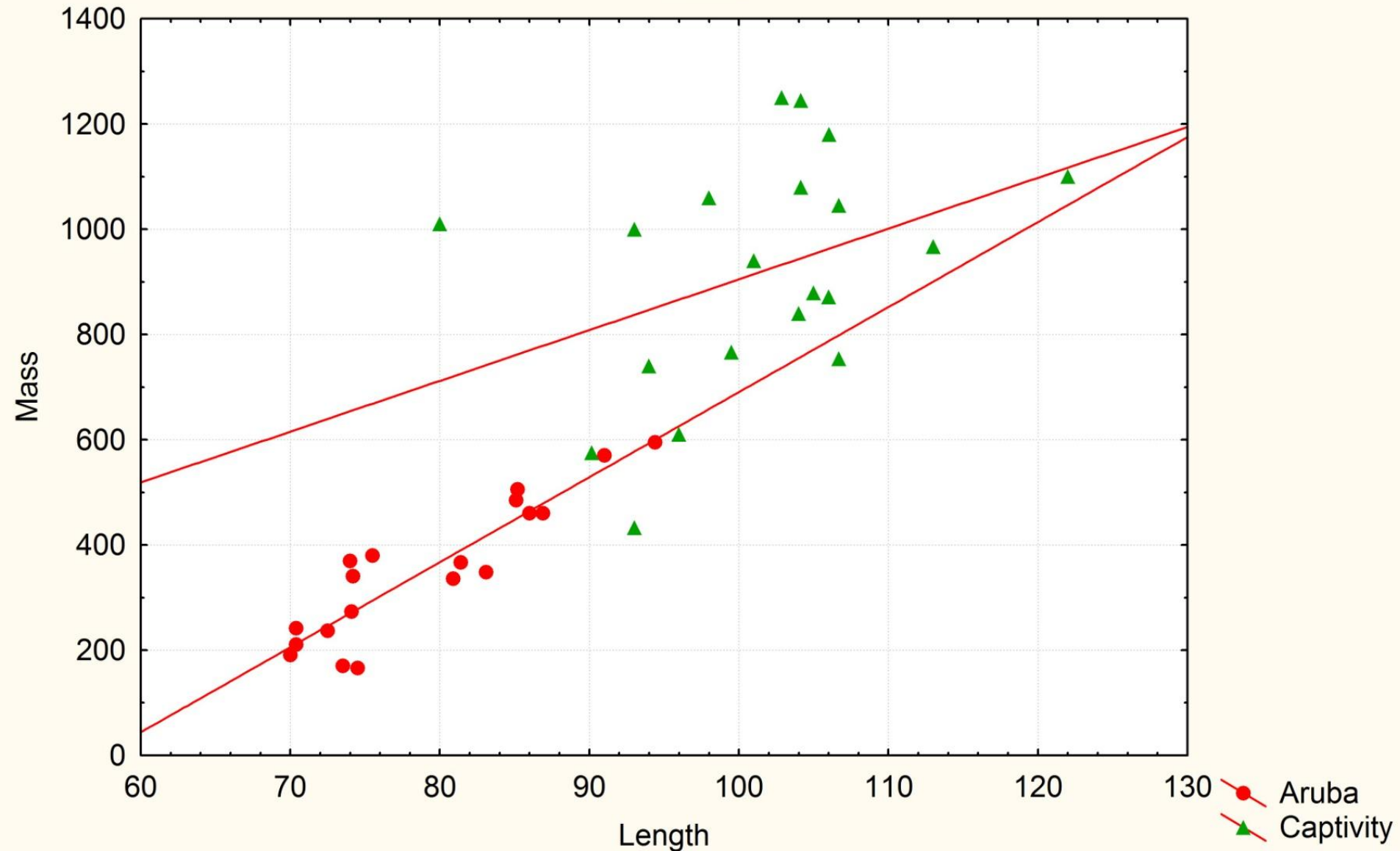


Comparison of Wild - Captive

Scatterplot of Mass against Length

Analysis sheet in Mass_Length analysis.stw 10v*204c

Males

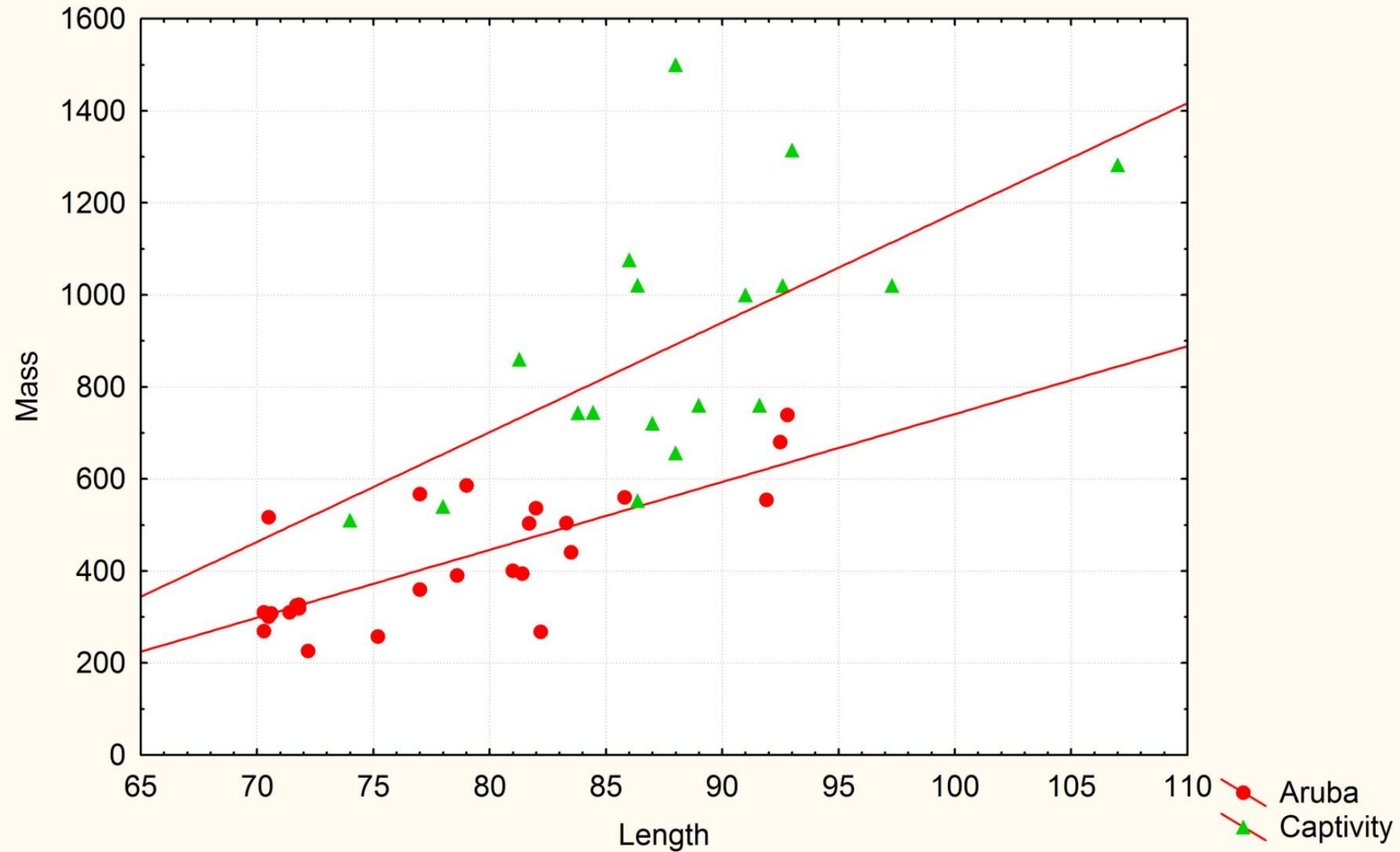


Wild - Captive Comparison

Scatterplot of Mass against Length

Analysis sheet in Mass_Length analysis.stw 10v*204c

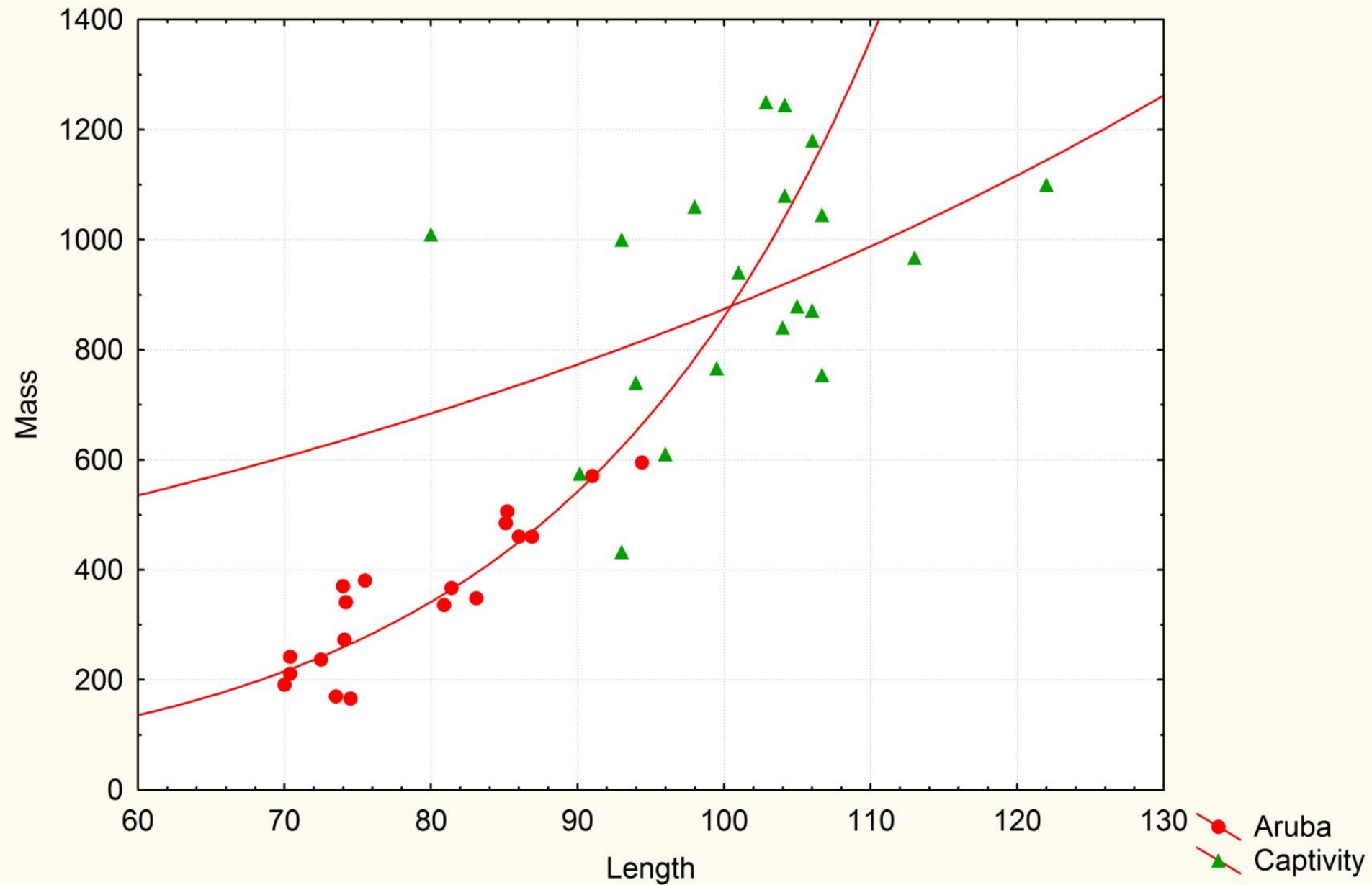
Females



Comparison with Exponential Fit

Analysis sheet in Mass_Length analysis.stw 10v*204c

Males

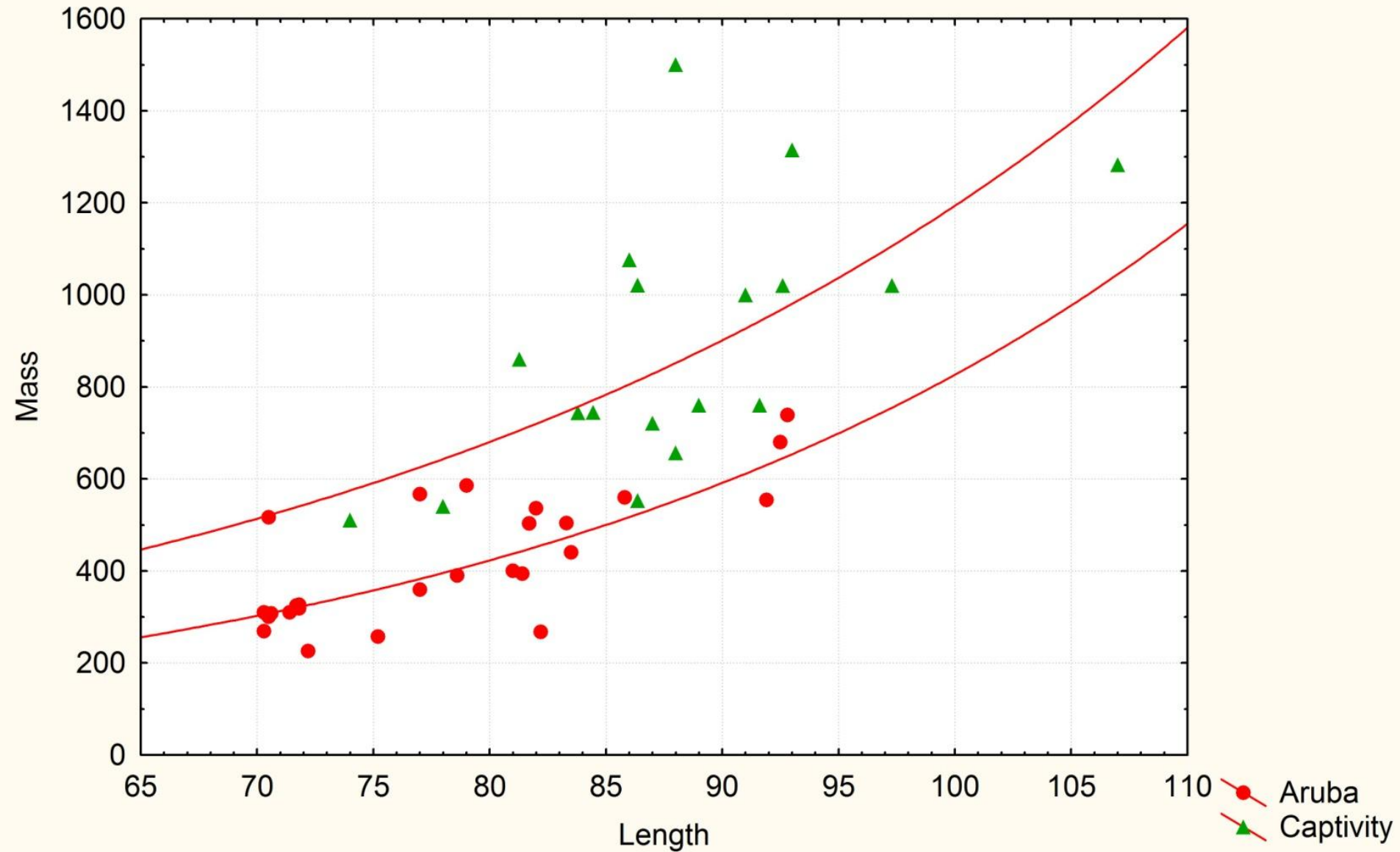


Comparison with Exponential Fit

Scatterplot of Mass against Length

Analysis sheet in Mass_Length analysis.stw 10v*204c

Females



Male ANCOVA

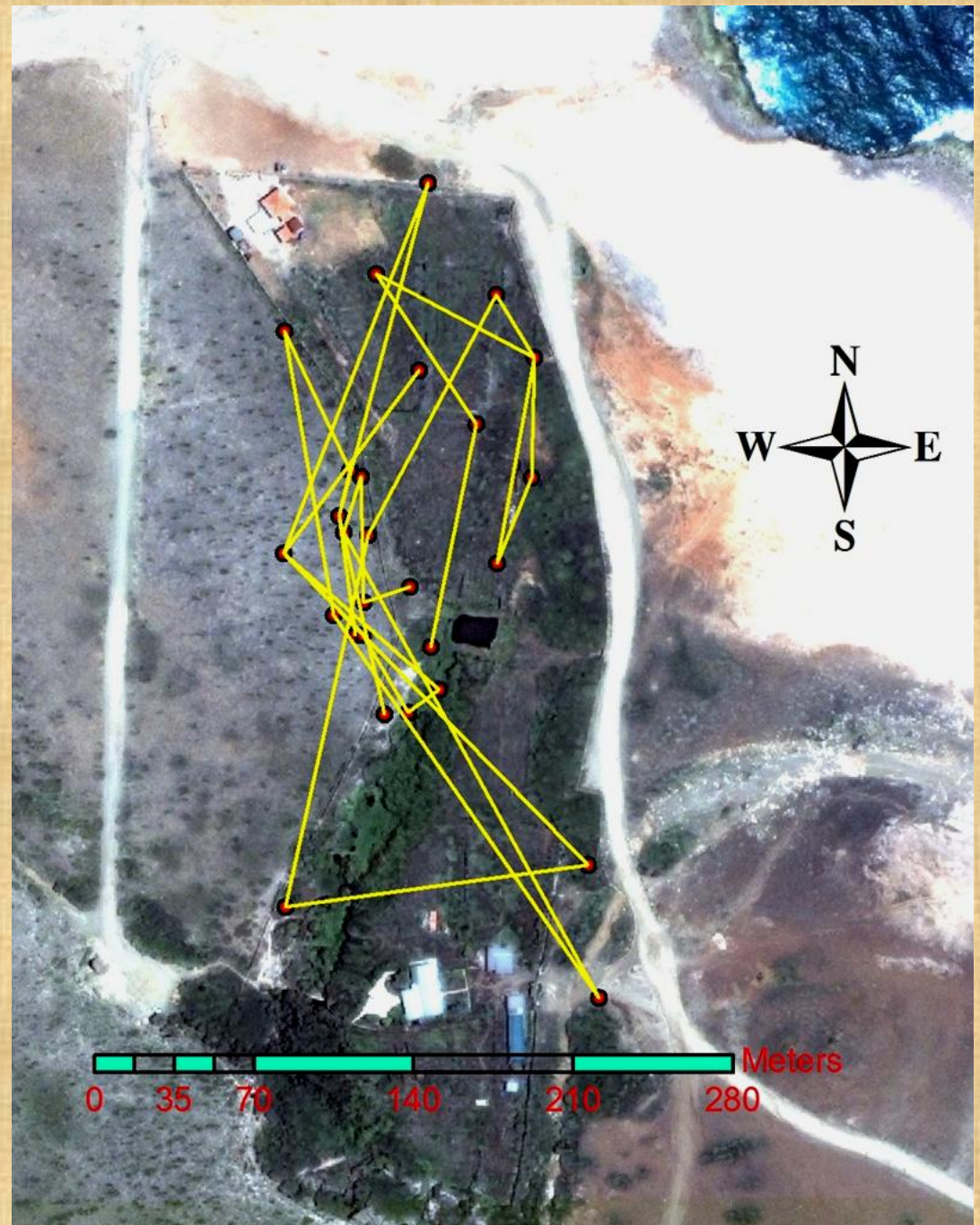
	SS	Degr. of Freedom	MS	F	p
Intercept	0.343184	1	0.343184	5.00758	0.031516
Length ln	1.859047	1	1.859047	27.12630	0.000008
Locat	0.498591	1	0.498591	7.27520	0.010570
Error	2.467188	36	0.068533		

Female ANCOVA

	SS	Degr. of Freedom	MS	F	p
Intercept	0.439236	1	0.439236	8.28321	0.006328
Length ln	2.173453	1	2.173453	40.98745	0.000000
Locat	1.457464	1	1.457464	27.48518	0.000005
Error	2.174118	41	0.053027		

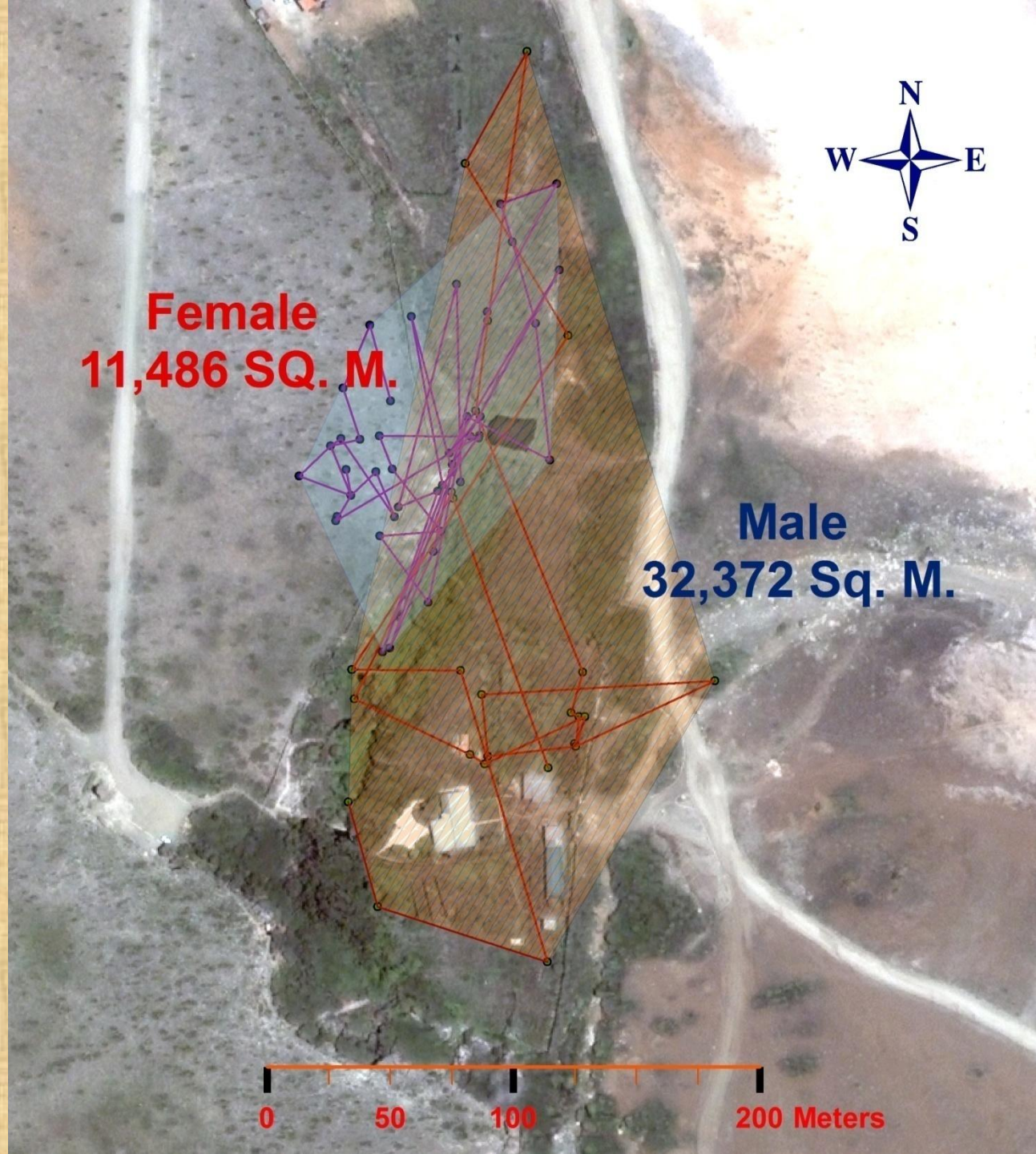
Male 71

Four month
travels



Activity Ranges

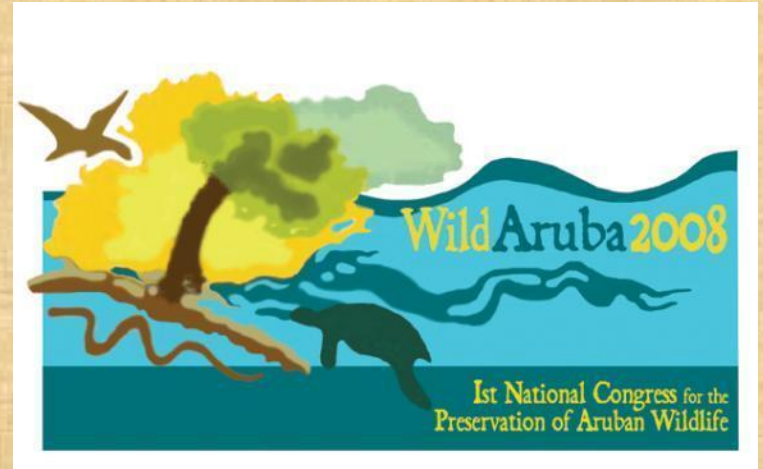
Typical Male
and Female



Spatial Statistics for Aruba Island Rattlesnakes

Sex	Mean Total Distance Moved (m)	Mean Distance Moved/Day (m)	Minimum Convex Polygon Area (ha)
Male (n = 30)	2021.0 (±314.43)	26.1 (±5.04)	8.4 (±2.46)
Female (n = 27)	1142.6 (±194.05)	11.2 (±3.18)	3.4 (±0.53)

- **Males demonstrated significantly larger values for all spatial parameters ($P < 0.05$).**



The First National Congress for the Preservation of Aruban Wildlife

WILDARUBA 2008

An Opportunity to Give Our Nature A Voice

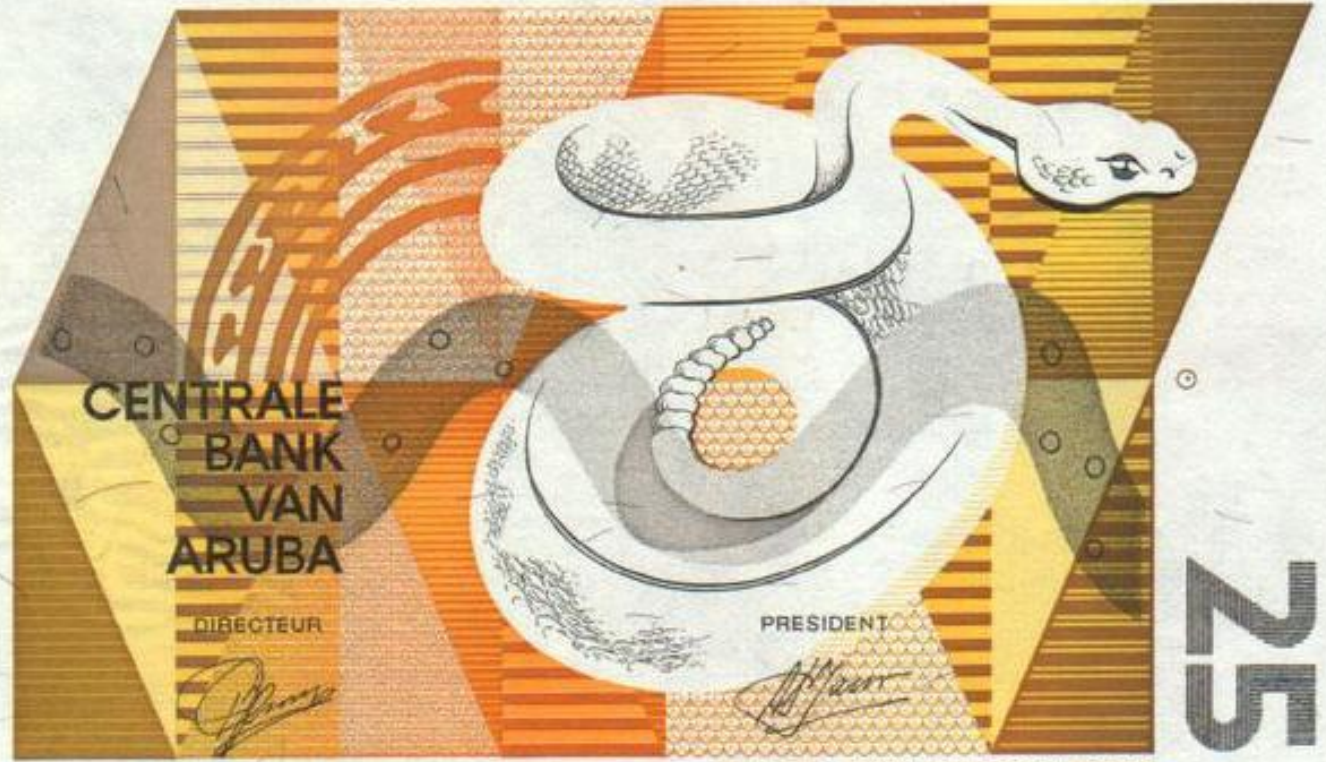
WHAT IS WILDARUBA?

Three Prong Approach to Address Conservation Issues on the Island

- **Education Workshops**
- **Wildlife Symposium**
- **Conservation Action Planning Workshop**

A celebration of Aruba's Nature

25
FLORIN
WETTIG BETAALMIDDEL



CASCABEL – CROTALUS DURISSUS UNICOLOR

25



EDUCATION WORKSHOP

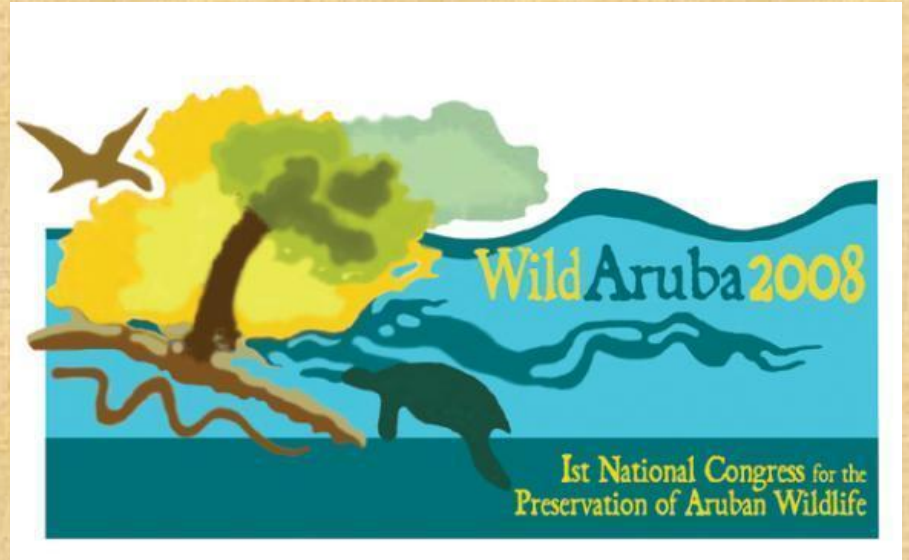
Students Learn About the Introduced Boa



Day 3 Distance Learning Workshop



Lesson from the Toledo Zoo



Marine and Terrestrial Ecosystems

SYMPOSIUM

Aruba's Wildlife is Cool



Symposium Attendees



AZA Members add an important component to the symposium

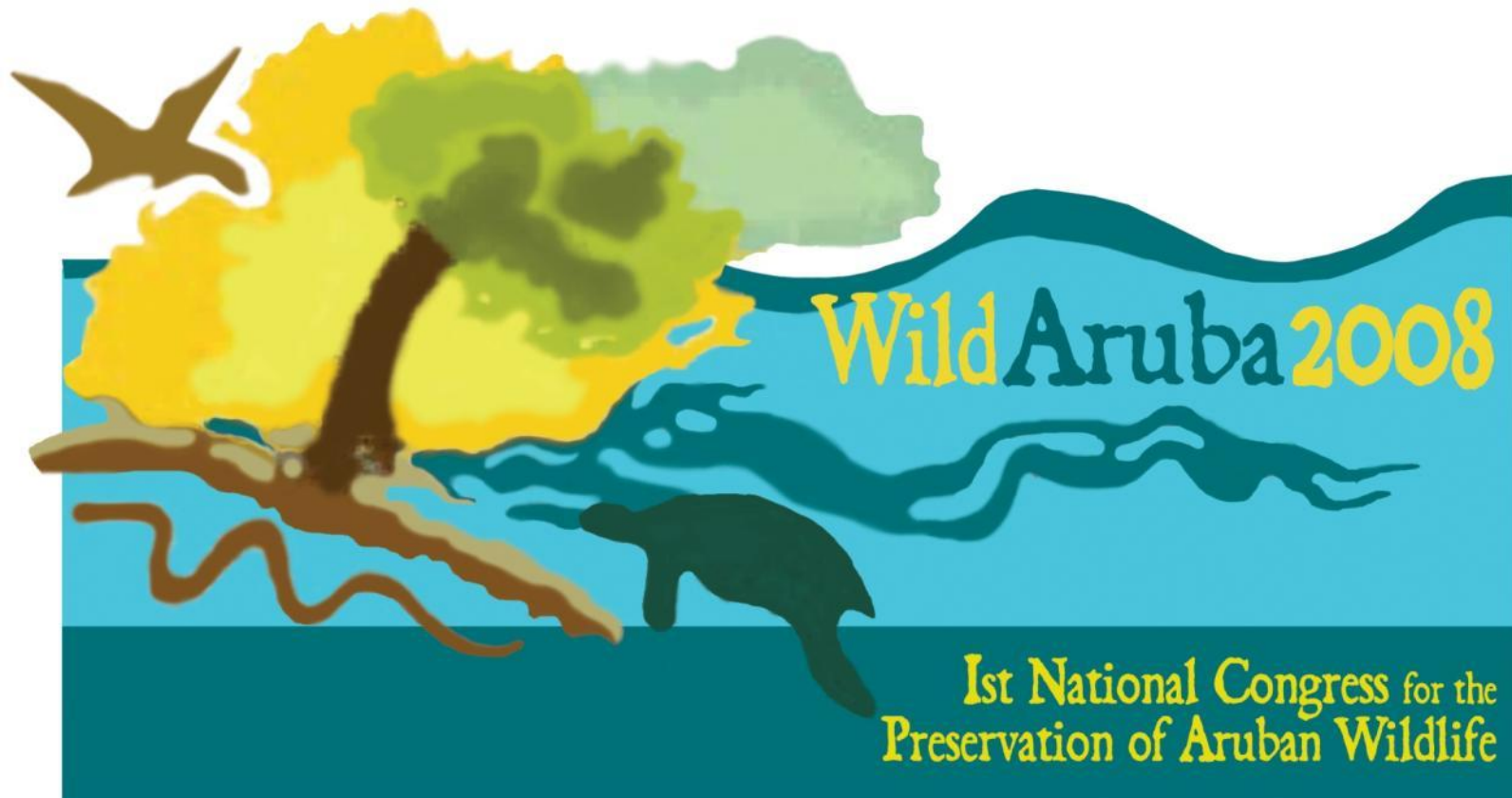


Boas, Cascabel, and Lizard Communities



IUCN CBSG

CONSERVATION ACTION PLANNING WORKSHOP



Workshop Participants



A cross section of stakeholders

Policy departments
ATA
Aruba Customs
DEZHI
DIP
DLVV
DO
Implementing departments
Mirscha Winterdaal (IPA)
Ruthline Schwengle (St. Anthonius Coll.)
Sharon Timmer (EPI C&T)
BUVO
Nature and Environment
MD (Meteorological Service)
Serlimar
Enforcement departments
IVM (Environmental Insp. Service)

Environmental NGO
Commissie Flora en Fauna
Animal Rights Aruba
FANAPA
Fund. Aruba Limpi
Fund. Arubano Medio Ambiente (FAMA)
Fund. Salba Nos Buriconan
Marine Mammal Foundation Aruba
PNA (Parke Nacional Aruba)
STINAPA Bonaire*
ProBiMar
Rainbow Warriors International
StimAruba
Turtugaruba
Centro Ecologico
Serenity
Commercial NGO
AHATA
ATIA
KvK
San Nicolas Business Ass.

Six Working Groups Were Created to Address Major Issues

- 1. Species Working Group**
- 2. Habitat Working Group**
- 3. Management Working Group**
- 4. Nature Related Parks Working Group**
- 5. Healthy Environment Working Group**
- 6. Education Working Group**

Priorities

- 1) Create an Environmental Management Authority (EMA) for Biodiversity**
- 2) Establish a protected National Marine Park**
- 3) Reinforce a moratorium on commercial development**
- 4) Create a permanent education committee of key stakeholders involved in natural history and heritage**
- 5) Gather information on species/habitat and distribution**
- 6) Ban all irresponsible driving on land or sea**
- 7) Clean up the air**
- 8) Change/modify human behavior to create a more environmental minded population**
- 9) Develop a biosecurity plan to prevent the establishment of invasives**
- 10) Develop Ecological Corridors/Linear Parks**

Aruba, where people appreciate and respect the island's flora, fauna and environment, and actively protect nature's evolving processes in healthy habitats, in both marine and terrestrial ecosystems, and manage to live in a sustainable balance between socio-economic development and conservation of its nature and cultural heritage.

THE WILDARUBA VISION

CBSG



Species Working Group



Debate Continues During Break Time



The Management Group

Looking at the Big Picture



Management Working Group

Goal: Establish an Environmental Management Authority - an *independent* authority responsible for a healthy and sound environmental management

Television and Press Coverage



PR is Important



Execution

**ACTIONS ARE ALREADY BEING
UNDERTAKEN!**

Condition Indices Study

CURRENT RESEARCH IMPACT OF BOA



Doris Sings for Cuba

He never
could carry a
tune.





Learn More!
WildAruba.org

Masha Danki